Prolonged Fever in HIV Disease due to *Salmonella enetritidis*

Dear Editor,

Non typhoidal salmonellosis (NTS) is on the rise in many countries. Most common causes of NTS are *Salmonella enterica* serovars Typhimurium, Enterica, Newport and Heidelberg and typically present as self limiting gastroenteritis. However, in immunocompromised individuals and children, complications like bacteremia and focal metastatic infections can ensue. Antibiotic resistance is also of concern in many countries where multidrug resistant
HIV/AIDS patients are at high risk of contracting NTS infections with a mortality of as high as 60% and bacterial recrudescence in up to 45% of cases.[4] High index of suspicion and optimum utilization of laboratory investigations helps in diagnosing the disease early and prevent further complications.

A 44-year-old man with a known HIV seropositive status was admitted for the evaluation of prolonged fever, anorexia, pain abdomen, weakness, weight loss, cough and exertional dyspnoea for one year. On examination, pallor, generalized lymphadenopathy, splenomegaly were noted. Respiratory system was clear except for scattered rhonchi and crepitations in inter scapular region. He also had tenderness in epigastric region. Fever was low grade and not associated with chills.

Investigations were carried out to look for possible causes of fever. Chest X-ray revealed minimal infiltrates in right lower lobe. Ultrasonography of abdomen showed splenomegaly with no further alterations.

On admission, haematological investigations showed anaemia with haemoglobin of 7.8gm/dL, total leucocyte count -2300/mm³, with neutrophils 60%, lymphocytes 14%, monocytes 7% and eosinophils 19%. ESR was 34mm/hour. Liver and renal function tests were normal. The CD4+ T cell count was 34.

Sputum examination was negative for acid fast bacilli, fungal elements and pneumocystis. Blood and bone marrow aspirates were cultured using BacT/Alert automated blood culture system. Blood culture was sterile after seven days of aerobic incubation. Upon subculture onto sheep blood agar and MacConkey’s agar, Salmonella Group D (biochemical identification) was isolated. It was further confirmed at National Salmonella and Escherichia Centre, Research and Development Division at the Central research institute, Kasauli, Himachal Pradesh, India, as S. enteritidis. The isolate was susceptible to ampicillin, chloramphenicol, ceftrioxone, cotrimoxazole and ciprofloxacin by Kirby Bauer disc diffusion method.

Following this, the patient was started on ciprofloxacin 500 mg twice a day for a total of 14 days. On discharge symptomatic improvement was observed. Follow-up investigations after a month showed marked increase in total leucocyte count of 4900 with 68% neutrophils, 22% lymphocytes, 5% monocytes and 3% eosinophils and Hb of 9.2gm/dL. Lung infiltrates had cleared in chest X’ray.

Prolonged immunosuppression in HIV infected individuals leads to invasive infections by NTS which otherwise causes mild self limiting gastroenteritis. After initial bacteraemia the NTS may resolve with therapy or may cause metastatic infections which may present as prolonged fever or fatal complication. This is usually due to persistence of the intracellular bacteria in bone marrow or other reticuloendothelial tissues.[2] Bacteriological cultures from possible metastatic sites along with other investigations would help in early diagnosis of NTS in developing countries where transmission of these food borne diseases is very high due to poor hygiene.

References

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